CLAIMS:

1. A method of processing a stereo signal obtained from an encoder, which encoder encodes an N-channel audio signal into left and right signals (L_0;R_0) and spatial parameters (*P*), the method comprising:

- processing said left and right signals in order to provide processed signals (L_{0w};R_{0w}), in which said processing is controlled in dependence of said spatial parameters (*P*).

2. The method of claim 1, wherein said processing is controlled by a first parameter (w_l;w_r) for each of said left and right signals, said first parameter being dependent on the spatial parameters (*P*).

3. The method of claim 2, wherein said first parameter (w_l;w_r) is a function of time and/or frequency.

4. The method of claim 1, 2 or 3 wherein said processing comprises filtering at least one of said left and right signals with a transfer function which depends on the spatial parameters (*P*).

5. The method of claim 1, 2, 3 or 4, wherein said processing comprises:

- adding a first, second and third signal in order to obtain said processed channel signals (L_{0w};R_{0w}), in which the first signal includes the stereo signal modified by a first transfer function (L_0*H_A;R_0*H_F), the second signal includes the stereo signal of the same one channel modified by a second transfer function (L_0*H_B;R_0*H_E), and the third signal includes the stereo signal of the other channel modified by a third transfer function (R_0*H_D;L_0*H_C).

6. The method of claim 5, wherein said second transfer function (H_B;H_E) comprises a multiplication with said first parameter (W_l;W_r) followed by multiplication with a first filter function (H_1;H_4).

7. The method of claim 5, wherein said first transfer function (H_A;H_F) comprises a multiplication with a second parameter.

8. The method of claim 5, wherein said first transfer function (H_A;H_F) comprises a multiplication with a second parameter in which said first parameter is a function of said second parameter.

9. The method of claim 5, 6, 7 or 8, wherein said third transfer function (H_l;H_D) comprises a multiplication of the left or right signal (L_O;R_0) with said first parameter (W_l;W_r) followed by a second filter function (H_2;H_3).

10. The method of claim 6, 7, 8 or 9, wherein said filter functions (H_1, H_2, H_3, H_4) are time-invariant.

11. The method of any one of the previous claims, wherein said signals are described by the equation:

$$\begin{bmatrix} L_{Ow} \\ R_{Ow} \end{bmatrix} = H \begin{bmatrix} L_O \\ R_O \end{bmatrix}$$

in which the transfer function matrix (H) is a function of the spatial parameters (P).

12. The method of claim 11, wherein said transfer function matrix (H) is described by the equation:

$$H = \begin{bmatrix} (1-w_l)^a + (w_l)^a H_1 & (w_r)^a H_3 \\ (w_l)^a H_2 & (1-w_r)^a + (w_r)^a H_4 \end{bmatrix}$$

with a being a constant.

13. The method of claim 11 or 12, wherein said filter functions (H_1, H_2, H_3, H_4) and parameters (w_l, w_r) are selected so that the transfer function matrix (H) is invertible.

14. A method of any one of the previous claims, wherein said spatial parameters (P) contain information describing signal levels of the N-channel signal.

15. A device for processing a stereo signal obtained from an encoder, which encoder encodes an N-channel audio signal into left and right signals ($L_0;R_0$) and spatial parameters (P), the device comprising:

- a post-processor (5) for post-processing said left and right signals in order to provide processed signals ($L_{0w};R_{0w}$), in which said post-processing is controlled in dependence of said spatial parameters (P).

16. An encoder apparatus comprising:

- an encoder (2) for encoding an N-channel audio signal into left and right signals ($L_0;R_0$) and spatial parameters (P), and
- a device (5) according to claim 15 for processing said left and right signals ($L_0;R_0$) in dependence of said spatial parameters (P).

17. A method for processing a stereo signal comprising left and right signals ($L_{0w};R_{0w}$), the method comprising inverting the processing in accordance with the method of any one of claims 1-14.

18. A device (7) for processing a stereo signal comprising left and right signals ($L_{0w};R_{0w}$), the device comprising means for inverting the processing in accordance with the method of any one of claims 1-14.

19. A decoder apparatus comprising:

- a device (7) according to claim 18 for processing a stereo signal comprising left and right signals ($L_{0w};R_{0w}$), and
- a decoder for decoding the processed stereo signals ($L_0;R_0$) into an N-channel audio signal.

20. An audio system (1) comprising an encoder apparatus according to claim 16 and a decoder apparatus according to claim 19.